

Immentor

A practical guide for the advancing dentist

In this issue:

How to
OPTIMIZE
Your Hygiene
Department

LASERING
Your Way
to Successful
Dental
Treatment

**INNOVATIVE
TECHNOLOGY**
for the
Emerging
Dentist



Gary M. Radz, DDS

Dr. Radz maintains an esthetic-based general practice in Denver, Colorado. He serves on the editorial board of 7 different journals, and is a sustaining member of the American Academy of Cosmetic Dentistry.

Along with an international speaking schedule, Dr. Radz has been an associate instructor for 4 different postgraduate educational institutions and currently is an associate clinical professor at the University of Colorado School of Dentistry. He received his fellowship from the Academy of Comprehensive Esthetics and also volunteers as a member of its advisory board. Locally, Dr.

Radz served for 3 years as the public relations chairman for the Metro Denver Dental Society and is serving his third year on the Continuing Education Committee.

He welcomes questions or comments at 303-298-0182 or radzdds@aol.com.

Dear Reader,

I find it appropriate that at the time of year when many of you are graduating, I choose to step aside from my editor-in-chief position for *Mentor*. As I quickly approach my 20th anniversary of graduation from the University of North Carolina School of Dentistry, I certainly do not feel my age, but, nevertheless, time is catching up with me.

I have recently hired a new graduate in my office. I truly enjoy his company and our working relationship. But his arrival also brings more clearly into focus the fact that my career has matured to the point where I do not fully comprehend all of the issues facing dental students and new graduates. It is because of this that I have chosen to pass on the reins of this journal to a younger dentist who can more clearly see the choices, problems, issues, and challenges of the demographic that *Mentor* is designed to serve.

I am very pleased to announce that Ascend Media has invited Dr. Tony Soileau to be the new editor-in-chief of *Mentor*. Tony has been a frequent contributor to *Mentor* and has already added much to the success of this journal. Dr. Soileau is close to the issues that this journal seeks to explore. He also has a lot of recent experience in being an associate in a successful growing solo practice. He rebuilt his practice after surviving 2 hurricanes, and is now well on his way to making his practice better than before. Tony has a brilliant and creative mind, and I look forward to seeing how his abilities help *Mentor* continue to grow.

I cannot leave without saying “thank you” to David Branch and all of the people at Ascend Media who allowed me to learn and grow the past 2 years. It has been a wonderful opportunity, and I am grateful to have had this experience. I would also like to thank you, the readers of *Mentor*. The thoughtful comments that I have received from you over the years have provided encouragement and motivation, making this one of the most pleasurable jobs that I’ve ever had.

I wish all of you the best. It’s a great time to be a dentist. You are all in for a fun ride, so be sure to take the time to enjoy it! Before you know it, you will be going to your 20-year reunion from school and wondering how everything happened so fast.

Wishing you all the best,

A handwritten signature in black ink, appearing to read 'Gary M. Radz'. The signature is stylized and somewhat cursive.

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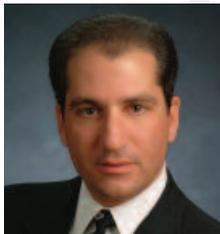
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Lawrence Caplin, DMD, CCHP

Dr. Caplin is the founder and CEO of Dentrust Dental International, a provider of dental care for federal, state, and local governmental agencies throughout the United States. He is also the founder and CEO of National Dental Company, a professional services organization assisting dentists in recruitment, practice design and construction, and the transition from education into practice. He sits on several boards of directors for nonprofit dental and health clinics. He welcomes questions or comments at 888-876-6372 or larry.caplin@natldental.com.



D. Walter Cohen, DDS

Dr. Cohen has been the editor-in-chief of *The Compendium* for 26 years. He is chancellor emeritus of MCP Hahnemann University of the Health Sciences and dean emeritus and professor of periodontics at the University of Pennsylvania in Philadelphia. In 1996, he was honored by the Alpha Omega Fraternity and an annex was built and dedicated to him at the Hebrew University–Hadassah School of Dental Medicine in Jerusalem.



John Gammichia, DMD

Dr. Gammichia is a partner in a general dentistry practice with his father in Orlando, Florida. He holds a part-time faculty position for the University of Florida AEGD Program, working with first-year residents. He also has held a part-time faculty position at an outreach facility for the University of Florida overseeing senior dental students. He gives a presentation to dental conferences and dental societies titled “What You Need to Know About the First Five Years of Practice.” He welcomes questions or comments at 407-889-4868 or jgammichia@aol.com.



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Dr. McClellan is a board-certified orthodontist practicing near Chicago, Illinois. He received his dental training at Northwestern University and his MS in orthodontics from the University of Michigan. He is also the president of Financial Clarity, a personal financial planning firm for health professionals, and has lectured to numerous dental schools, hospitals, and study clubs on personal finance. Dr. McClellan is the author of *BraceSavers*, a book offering practical advice to patients and their families on affording braces through creative financial planning. He welcomes questions or comments at 800-281-0703 or martmcc@aol.com.



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Dr. Samaras graduated from Farleigh Dickinson University in 1975 and Tufts University School of Dental Medicine in 1982. A practicing dentist for more than 25 years, he is a fellow in the International College of Dentists and a member of 21st Century Practice Solutions. He has authored numerous articles and lectures nationally and internationally on dental technology. Dr. Samaras is a member of the American Dental Association, the American Academy of Cosmetic Dentistry, the Academy of Implant Dentistry, and the Academy of Laser Dentistry. He welcomes questions or comments by e-mail at csamaras@nc.rr.com.



Roger D. Winland, DDS, MS, MAGD

A graduate of Ohio State University (DDS), Dr. Winland received his Academy of General Dentistry (AGD) fellowship in 1984 and his mastership in 1991. He is also a fellow of the International College of Dentists, the Academy of Dentistry International, and the American College of Dentists. Dr. Winland is a delegate for the Ohio Dental Association and sits on the Ohio Dental Association Task Force on Managed Care. He is a past president of the Ohio AGD and the Hocking Valley Dental Society. He has a general dentistry practice in Athens, Ohio.

Contributors

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Dr. Do is a 2003 Loma Linda University graduate. She is an active leader in the field of laser dentistry and has lectured extensively around the United States on trends in laser dentistry. Dr. Do practices in a private dental office that incorporates Invisalign, lasers, digital imaging, and other new developments in dentistry. She is a member of the American Dental Association, California Dental Association, Orange County Dental Society, World Clinical Laser Institute, and the Business Intelligence Task Force.



Andy McKamie, DDS

Dr. McKamie is a graduate of the University of Oklahoma College of Dentistry. He is the owner of the Center for Exceptional Dentistry in Bethany, Oklahoma, a private practice focused on cosmetic smile design. He is a graduate of the Pinnacle Practices PHD program and is now a partner in the firm. Dr. McKamie lectures nationally on dental business management and is a board member on *Contemporary Esthetics*. He can be reached by e-mail at rjmckamie@hotmail.com or by phone at 405-789-7893.



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Dr. Morgan graduated from the University of Texas Dental School at San Antonio. She has been heavily involved in research in association with the Division of Esthetic Dentistry at the University of Texas in San Antonio and has presented numerous scientific papers. She lectures internationally on esthetic and restorative dentistry from a combined research and clinical approach. Dr. Morgan practices orthodontics and cosmetic and restorative dentistry in Salt Lake City, Utah.



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Ms. O'Connor is president of Pinnacle Practices, Inc (www.pinnaclepractices.com), a dental practice management firm founded in 1987 and headquartered in Dallas, Texas. Pinnacle Practices has grown to serve more than 1,200 dental teams under Randa's vision and leadership. Randa's ability to motivate and empower people to take ownership for their personal success is what makes her a great speaker and leader in the dental industry. She can be reached at randa@pinnaclepractices.com.



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Mr. Poole is a managing partner at Focused Evolution, Inc, a marketing strategy/general management consulting firm focused on the dental industry. The firm specializes in growth strategies including launch planning and execution of startups, products, and services. He can be reached at jim.poole@focusedevolution.com.



Stan Presley, DDS

Dr. Presley received his degree from Baylor College of Dentistry in 1977. He attended the L.D. Pankey Institute, and was one of the founding members of the South Texas Chapter of the American Academy of Cosmetic Dentistry, where he served as secretary and vice president. Dr. Presley lectures internationally and is involved in both didactic and hands-on courses, in addition to writing articles demonstrating realistic and learnable procedures for general practitioners. He currently practices orthodontics and cosmetic and restorative dentistry in Salt Lake City, Utah.



mentor

contents



Professional Development

Advisory Board 4

How to Optimize Your Hygiene Department 8

Jim Poole, MBA; Randa O'Connor; Andy McKamie, DDS

Innovative Technology for the Emerging Dentist 12

Charles D. Samaras, DMD

Features

Lasering Your Way to Successful Dental Treatment 16

Christina T. Do, DDS

Marketplace 20

Departments

Current Innovations in Tooth Whitening 22

Jamiee Morgan, DDS; Stan Presley, DDS

Sponsor Page 28 Back Cover

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WARNING: Reading an article in *Mentor* does not necessarily qualify you to integrate new techniques or procedures into your practice. *Mentor* expects its readers to rely on their judgment regarding their clinical expertise and recommends further education when necessary before trying to implement any new procedure.

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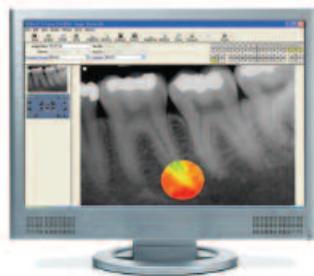


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How to Optimize



The hygiene department is a critical element to your business success as a general dentist.

Hygiene, as a Pinnacle Practices consultant would say, “is the fuel that drives the bus.” Why? Your hygiene department is where patient loyalty is built, case acceptance is cultivated, restorative treatment needs are uncovered, and production is generated.

Your Hygiene Department

Jim Poole, MBA; Randa O'Connor; Andy McKamie, DDS

Case Acceptance and Hygiene

Let's begin with case acceptance. Case acceptance is defined by getting your patients to say "yes" to the recommended treatment, scheduling the necessary appointments, and having the work done. Case acceptance is a challenge for dental practices everywhere. According to American Dental Association (<http://www.ada.org>) research, the national average for case acceptance is 68% based on annual revenue divided by diagnosed treatment. According to a 2006 client audit by Pinnacle Practices, the average (1 year among an active client base) unscheduled treatment in a practice equals \$1,249,817.

Successful case acceptance is predicated on patient trust and understanding. Patient trust is built with frequency and consistency. Patient understanding is achieved when you communicate clearly, candidly, and compassionately. Your patients are going to see your hygienists more than anyone else in your practice. Time spent in the hygiene chair is time available to probe, lis-

ten, and learn who your patients are. What are their needs, concerns, motivations, and desires? Who are they, how do they like to be treated, and how can you build their loyalty?

Patients typically feel more comfortable communicating with hygienists than with doctors. People are conditioned to respect doctors and give them immediate credibility because of their education and professional status. Credibility is valuable but should not be confused with trust. How many times has the following occurred in your practice? You present your recommended treatment to the patient who appears to be engaged and listening. The patient agrees, nods their head in agreement, and tells you that they are going to proceed with your recommendations...only they never show up again at your practice. What happened? It could mean that they did not trust you enough to follow through with your recommendations. People generally buy services from people they trust and believe in. The hygiene department is the cornerstone to building that trust.



	Per Day		Per Week (X4)		Per Month (X4)		Per Year (X12)	
	No-shows/ Cancellations	Lost Production, \$ (\$100 per visit)						
1 Hygienist	2	200	8	800	32	3,200	384	38,400
2 Hygienists	4	400	16	1,600	64	6,400	768	76,800
3 Hygienists	6	600	24	2,400	96	9,600	1152	115,200

This loss in production does not factor in any of the restorative needs uncovered throughout a hygiene appointment.

The goal for your hygienists regarding case acceptance is to build a loyal, trusting relationship with your patients and to educate them on dentistry. Your goal as a dentist is to lead, diagnose, and treat. Many dentists feel overwhelmed and overburdened with the perception that they have to “sell” their dentistry. We don’t believe that selling dentistry is why you went to dental school, nor is it a core competency. Case acceptance is not about selling, it’s about communicating, connecting, and taking great care of your patients’ oral and systemic health.

Practices that excel in case acceptance are those that recognize and respect the power of a great dental team. An effective dental team works together, focuses on patient satisfaction, provides patients with a consistent message, and makes their patients feel important. It is imperative that you and your hygienists share the same treatment philosophy and communicate a consistent message to your patients. What is your soft-tissue management philosophy? What is your clinical philosophy regarding inlays, onlays, and crowns? What is your clinical philosophy regarding implants and bridges? When your hygienist is probing and educating your patients on their oral health, they should be conveying the same information that you would communicate. Inconsistent information will confuse your patients and make case acceptance more difficult. You don’t see your patients with enough frequency to risk confusing them.

Production and Hygiene

A typical work schedule for a hygienist is 8 hours per day, 4 work days per week. Ideally, every hygienist should see 8 patients per working day with the production goal of uncovering at least 1 to 2 restorative needs

per patient. This is the fuel that drives your business and builds your future.

A good rule of thumb is to have 1 hygienist for every 800 active patients. For success, each hygienist’s schedule must be full. No-shows and cancellations plague the hygiene schedule and compromise production goals. It is important for a dental practice to reinforce the value of their hygiene department by implementing and communicating a financial fee for missed hygiene appointments. When you do not hold patients accountable for breaking the schedule, you reinforce the perception that hygiene appointments are of low value. The Table above shows the financial impact of no-shows and cancellations.

One of the keys to your success as a dentist and business owner is to hire and train hygienists who believe in your clinical philosophy, understand the importance of their role, build trusting relationships with patients, listen, and educate.

Your practice should strive for a 90% patient show rate for your hygiene department. Implementing a cancellation fee is a Band-Aid fix to a systemic problem. It’s all about relationships, and getting your practice to a 90% show rate is going to take commitment and effort. One of Pinnacle’s proven strategies to attain this

goal is to hire and train a hygiene coordinator. A hygiene coordinator has 3 main priorities:

Patient Liaison. The hygiene coordinator is your patient liaison, responsible for managing the hygiene schedule and building relationships with your patient base. What do your patients want? They appreciate friendly, flexible service that is tailored to their specific needs. Your patients, like most Americans today, have enough stress in their daily lives that dedicating time to see their dentist is not the highest priority. For your patients to make it a priority, you have to make them feel that they are important and you are there specifically to take great care of them.

Getting New Patients in the Door. When a new patient calls your practice, they should be transferred to the hygiene coordinator (patient liaison) to begin the relationship building process. The goal of this initial call is to get the potential new patient to commit to an appointment, ideally within 6 business days. Scheduling the initial appointment beyond 6 business days does not reinforce the patient focus and sense of priority that you are trying to establish. You should not end the initial call until you have made a connection with the patient, learned why they are calling, determined the last time they have seen a dentist, and clearly understand their needs. The potential patient should understand the benefits you can provide during that first call.

Managing the Hygiene Patient Mix. The goal is to fill the schedule, but not just with the same patients repeatedly. There are 2 facets to the hygiene schedule that need to be balanced. The first is the mix of patients of record: current patients, past-due patients, and inactive patients. Regular hygiene appointments should be scheduled for 45 minutes to 1 hour. From the patients-of-record group, the hygiene coordinator should strive for 33% current patients, 33% past-due patients, and 33% inactive patients. The protocol we recommend is to make 2 contacts (actually speak with a patient) for every available time slot. The second facet is the new-patient and Quad Scale appointments, which should be scheduled for 1.5 hours each. Optimally, you should schedule at least 1 new-patient and 1 Quad Scale appointment per working day per hygienist.

Hygiene Coordinator Expectations

1. Schedule the hygienist(s) to see an average of 7 to 8 patients per day.
2. Make the contacts required per day, per hygienist, and per doctor to maintain the schedule and a 90% show rate.
3. Fill hygiene no-shows and cancellations.
4. Answer all hygiene and new-patient phone calls.
5. If using a manual recall system, have a recall card created for every patient.
6. Use and manage patient marketing software, such as Smile Reminder (www.smilereminder.com), to maintain consistent contact with your patient base (phone, e-mail, text messages, patient satisfaction surveys, promotions, practice newsletters, etc).
7. Send out patient thank you and birthday correspondence.
8. Maintain the recall system.
9. Confirm the hygiene schedule.
10. Maintain a positive attitude and always answer the telephone with a smile.
11. Be a team player.
12. Communicate effectively with all team members.
13. Attend daily team meetings.
14. Develop and implement internal marketing projects for the practice.
15. Maintain the hygiene-related content on your practice's Web site.

Provided courtesy of Pinnacle Practices, Inc.

Hygienists are valuable contributors to your patients, your team, your dentistry, and your business. One of the keys to your success as a dentist and business owner is to hire and train hygienists who believe in your clinical philosophy, understand the importance of their role, build trusting relationships with patients, listen, and educate. Your hygiene department should not be viewed as a prophylaxis factory, but as an opportunity for trusted relationships to be cultivated, restorative needs to be uncovered, and dental education to begin. Great hygienists can make your job of running a dental business easier and more gratifying. Good luck, and please contact us if we can be of further assistance to you. ■

Innovative Technology for the Emerging Dentist

Charles D. Samaras, DMD

Excellence is what dentistry is all about and what our patients deserve. The earlier the new dentist understands and adopts this principle, the better dentist he or she will be.

I have written many times on the tremendous impact technology has in today's dental practice. It has changed the way we practice dentistry. No longer is dental technology a toy or an experiment, but the standard by which we provide excellence—diagnostic excellence, clinical excellence, and excellence of service. Excellence is what dentistry is all about and what our patients deserve. The earlier the new dentist understands and adopts this principle, the better dentist he or she will be. Understanding and using technology is the means by which the new dentist can achieve excellence.

The new dentist is most likely thinking, technology is great and I want to use it, but what technology should I learn about and use first? And how can I purchase it when I am still in significant debt from dental school? This article will discuss some of the new and existing dental technologies, how and why to use them, and the most cost-effective methods for the new dentist to integrate and promote these technologies in the 21st-century dental practice.

Reviewing Technology

A review of some new dental technology will require discussion of existing technologies as well as the rationale for the new dentist to use them. All will

relate, of course, to the areas of excellence mentioned in the opening paragraph.

First and foremost, the foundation to creating a 21st-century dental practice and the nexus to implementing and integrating most dental technology is the practice management software, hardware, and advanced imaging capacity, through computers, in all administrative and clinical areas of the dental office. This technology enables a practice to more efficiently gather and record information (administrative, diagnostic, clinical) through the creation of the virtual patient record. This information is easy to see and read; does not get lost, misplaced, or misfiled; and can be transferred electronically to a specialist, a colleague, or a dental benefit payer. Virtual digital dentistry through computers in the operatories also provides the ultimate in risk management by virtue of virtual documentation. Digital images such as radiographs, intra- and extraoral camera images, and panographs provide the ultimate excellence in diagnosis. Digital tutorials and videos in operatory and consultation rooms provide excellence in patient education, because patients better understand what they see, not what you tell them. They also contribute to excellence of service for the patient. However, one final way in which digital dentistry and virtual

records provide the ultimate in service for the patient is that all documentation, radiographs, and digital images required for dental claims or pre-estimates of benefits can now be sent in seconds by electronic transfer to dental benefit payers, thereby reducing waiting time. Now, claims can be processed in less than 24 hours. This technology and service is currently provided and facilitated by National Electronic Attachment (www.NEA-fast.com, 800-782-5150).

Diagnostic Tools

There is a new technology in caries detection called D-Carie from Neks Technologies (www.Neks.com, 866-687-6357). It uses light deflection to detect caries. D-Carie uses fiberoptic and light-emitting diode technology to detect both occlusal and interproximal decay. It works by emitting a soft light from a diode that penetrates sound tooth structure but will be reflected off carious dental tissue. When caries is detected, the device emits both an audible and visual signal by way of a beeping sound and a red light. D-Carie is very lightweight (2.4 oz), portable, cordless (it runs on 2 AAA batteries), and easy to sterilize. This technology pro-

vides a safe, easy, painless, and minimally invasive method to detect otherwise undetectable decay.

Another new diagnostic technology that uses your existing digital computer screens is VELscope by LED Dental, Inc (www.velscope.com, 888-541-4614). Not only is diagnosis of oral lesions critical to patient diagnostic excellence and service, early detection and treatment can save a patient's life; currently 1 person dies from oral cancer every 24 hours in the United States. Most often, dental practitioners use direct vision under conventional white light to search for and detect oral tissue abnormalities. Through this method, tissues that appear normal to the naked eye may belie an underlying lesion. VELscope emits a safe blue light into the oral cavity, causing tissue fluorescence from the epithelium to the base membrane. The optical filters in the VELscope handpiece enable the practitioner to view the distinct fluorescence differences between normal and abnormal tissue cells. Healthy tissue appears as a bright green color, whereas abnormal tissue appears dark (maroon).

VELscope is fairly light, portable, and easy to use. The images obtained by this technology can become



virtual image documents in the patient's record, providing patient service excellence and virtual documentation for the ultimate in risk management. A fee can and should be applied for this service; many dental benefit payers recognize the procedure with the code D0431.

Some of the most exciting technology to come along in years is 3-dimensional (3-D) digital radiographic imaging, which exponentially raises the bar in diagnostic radiographic capability and therapeutic planning. Imagine, a 3-D digital display of the entire oral-maxillofacial region in amazing detail and clarity. Such is the capacity of the new cone beam technology provided by GALILEOS (Sirona, www.sirona.com, 800-659-5977), Promax 3D, a cone beam volumetric tomography unit (Planmeca, www.planmeca.com, 630-529-2300), or ILUMA Cone Beam CT Scanner (Kodak Dental Systems Group, www.kodak.com/dental, 800-944-6365). This technology provides 3-D imaging of exact anatomy, position, and scope of all maxillofacial structures, lesions, and cysts, and even displays and provides proper positioning and surgical guides for dental implant placements. As you can imagine, this new 3-D imaging technology has application in oral-maxillofacial surgery, orthodontics, and dental implantation.

Clinical Tools

If clinical excellence and excellence of service are to be achieved, then the next 2 technologies certainly contribute in a big way. First, excellence in restorative dentistry consists of ideal preparation, placement of materials (direct and indirect), and proper finishing and polishing. To accomplish the goal of proper visibility, illumination, isolation, and retraction are paramount. In other words, you require a clear, dry, lighted, and accessible field of operation. Now, this can be provided through the technology of Isolite (Isolite Systems,

www.Isolitesystems.com, 800-560-6066). Isolite provides hands-free aspiration, illumination, retraction, and moisture control that is safe and comfortable for the patient. This affords the provider better visibility and access so that he or she can provide high-quality dentistry faster and with less stress and fatigue.

Finally, the diode laser is having a major impact in 21st-century general dentistry. Diode lasers are not new, but their compactness, portability, ease of use, and reasonable purchase price are. Diode lasers perform many procedures, such as soft-tissue removal, contouring, and troughing, in an efficient manner while providing the ultimate in hemostasis, patient comfort, and accelerated tissue-healing properties and reduced postoperative discomfort. That is why soft-tissue lasers are becoming so popular. In the past, these diode lasers were large, expensive, and difficult to transfer from operator to operator. Now, there are 2 new diode laser technologies that solve these problems while providing the desired clinical excellence and patient service. They are SIROLaser (Sirona, www.sirona.com, 800-659-5577) and Odyssey Navigator (Ivoclar, www.Ivoclarvivadent.us, 800-533-6825). Both lasers fit in your hand; are very light, portable, and easy to use; and have a price tag of around \$12,000. And, their clinical applications results are remarkable.

Conclusion

There are numerous innovative technologies in dentistry today. I have touched on the few that have a major impact for the new dentist. Not only will these technologies help emerging dentists distinguish themselves among the dental community, they will help them achieve the diagnostic excellence, clinical excellence, and excellence of service that dentists should provide and patients deserve. ■

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- Gregori M. Kurtzman, DDS,
MAGD, FACD, DICOI

"Breeze provides me with controllable working time and excellent bond strength. It has become my only choice for a self-adhesive resin cement."

- Michael Maroon, DMD
Founder & Fellow, Academy of
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Lasering Your Way to Successful Dental Treatment

Christina T. Do, DDS

Would you rather take pictures with a 35-mm camera or a digital camera? Would you rather have a pager or a cell phone? How about film x-rays or digital radiography? I love the ever-changing technology of today's world, and I am constantly trying to stay up-to-date with the latest trends of cell phones, laptops, and iPods. So, imagine my elation when I discovered a resourceful dental tool that had the potential to help me practice dentistry more efficiently. As I conducted more research, I became increasingly excited. I had stumbled on a dental tool that allowed me to perform hard- and soft-tissue procedures at the touch of

a button with only 1 machine. Not only could I use a single dental tool for hard- and soft-tissue procedures, but I also had the ability to do so without having to administer an anesthetic! Thus, I began my quest on how to become proficient with this cutting-edge dental tool.

The Waterlase MD (Biolase; Irvine, CA) is an innovative hard- and soft-tissue dental laser that uses laser energy and water to perform dental procedures. The Waterlase MD is a nonthreatening dental tool to the patient. At first glance, one can see how it encompasses the latest technology. The laser unit is on 4 wheels, which makes it very easy to maneuver from room to room. The laser has a touch screen that makes it very easy to change settings with the simple push of a button. The power of the laser is strongly secured within a hard-case component, making this instrument very durable. The greatest feature of this tool is being able to change from a hard-tissue mode to a soft-tissue mode with the touch of a button. On the touch screen, I have the ability to control the power of the laser, the amount of water and air, and the hertz of the laser. The machine is also able to save 16 presets, so I can literally push 1 button and begin a procedure. The laser handpiece is similar to the size and shape of a compact traditional drill. There are also many tips to choose from for a personalized treatment approach.

On a daily basis, I perform many hard- and soft-tissue procedures. In dental school, I learned the basic foundations of dentistry: pick up a drill and cut hard tissue,

pick up a scalpel and cut soft tissue. My instructor always advised me to never forget to numb the patient first. This technique became routine to me. Many times, before performing these procedures, I was stopped by the patient with a phrase such as, "I hate going to the dentist" or "I hate shots." So with steady hands and a quivering self-esteem, I began to treat the patient. After graduating from dental school, I began to familiarize myself with the Waterlase MD, a new cutting-edge technology that could break my routine. In dental school, I had some exposure to the laser, but with the busyness of finishing my requirements, it left little time for me to explore other areas of dentistry. Now without any obstacles after graduation, I began to educate myself on the Waterlase MD.

There is a learning curve to the laser. To get to the stage where I

felt complete confidence using my laser took approximately 3 months. I did start off a little bit slow, because I was so accustomed to the concept of the drill. However, after a few procedures, I was able to adjust my technique. The tip of the laser is about 1 mm from the tooth structure that you want to remove. The water from the handpiece removes enamel, dentin, bone, and decay in a very conservative approach. The concept is a gentle and conservative technique that removes the targeted area. I can confidently treat my patients knowing that I am providing them with treatment which causes less trauma to the tooth and gum tissue. My patients heal much faster and with less postoperative discomfort.

With the new opportunity that the Waterlase MD afforded me, I began to perform procedures that I would never have performed with-



Figure 1—Immediately after frenectomy.



Figure 2—Three days after frenectomy.



Figure 3—Intraoperative tooth.



Figure 4—Final restoration.

out the laser. I found myself removing large tori, doing same-day bony crown lengthening, troughing for crown preparations, performing frenectomies and gingivectomies without anesthesia, doing sulcular debridement for deep pockets, doing fibroma removal, curing aphthous ulcers, and desensitizing cervical abfraction/abrasion lesions. In the past, when I used a scalpel to cut the gingiva, I felt very barbaric with my technique. Now, with the laser, I can perform the procedure with a better touch and a higher quality result. The laser coagulates the soft tissue so the patient has little to no bleeding and a faster healing time with minimal to no pain. The frenectomy in Figures 1 and 2 was performed without any anesthetic and did not bleed. Many times I perform these soft-tissue procedures without any anesthetic and without placing sutures so the patient is even more comfortable.

Gone are the days of the high-pitched drill sound. With the initial introduction of the Waterlase MD, one hears a popping sound, similar to the sound of popcorn popping. The Waterlase MD does not heat or vibrate the tooth the way a traditional drill does. Therefore, patients are less sensitive and can often receive basic

The laser coagulates the soft tissue so the patient has little to no bleeding and a faster healing time with minimal to no pain.

dental treatments without anesthesia or any injections, which is the greatest bonus to the Waterlase MD, and patients leave without having a numb lip or tongue. Gone are the days of waiting for the patient to become numb and comfortable. My patients now hop in the chair and I am able to start immediately. A few minutes later, they leave the chair without a numb lip and can eat and drink at any time. With the Waterlase MD, I can treat multiple quadrants in 1 visit, see more patients with less chair time (for a class II filling from start to finish takes about 15 minutes), patients' fear and anxiety is now minimal to none, and their number of visits is decreased.

When I perform my restorative procedures, I can remove decay with the laser, bevel my margins if neces-

sary, and etch and desensitize the tooth all with the laser. The laser also sterilizes the tooth, so when I place a composite filling I am confident of the possibility of less recurrent decay. With the etching advantage, I trust that the composite restoration I place will have much better retention than with the drill. Also, the laser does not leave a smear layer the way the drill does, so my working area is clean for the composite (Figures 3 and 4).

Another advantage is, when I am preparing a class V procedure, if the decay encroaches underneath the gingival, I can use the same laser to remove soft tissue. This allows for a better composite restoration finish. The benefits of using the same tool for hard- and soft-tissue removal are endless. The laser removes the soft tissue from between 0.1 watts and 2.0 watts of power. To remove hard tissue, I simply increase the power to remove enamel or dentin, maxing out at 8.0 watts. I vary my power depending on each individual patient. The laser does cater to each individual so I can provide each patient with optimal comfort. I still use my low-speed and high-speed drill to polish restorations. The laser is not a replacement for the drill, but rather an adjunct that provides my patients with a better dental experience and less-invasive dental treatment.

Aphthous ulcer lesions can also be cured with the Waterlase MD. Before, the patient had to wait out the course of the lesion; now, using the laser on the sore can help to heal and eliminate it within 3 days. Patients who had deep pockets with generalized periodontal disease can now be cured with the laser. It has the ability to debride and sterilize the deep pockets, and, within 3 months, reattachment of the gum tissue can be achieved and abscesses eliminated.

My patients are very pleased with my use of the laser and all of the benefits of its treatment. They love the idea of getting pain-free, minimally invasive dental treatments. All of these factors can become a part of any dentist's regime by attending a few courses that are offered throughout the year by Biolase in various regions. Of course, like anything, the more laser procedures one performs, the more of an expert one becomes. The Waterlase MD truly has been an exciting part of the evolution of dentistry. With all of the innovative products available to the dental society, we want to utilize those that give us an edge and make us better clinicians. Let us, as dentists, shed some "laser" light on our profession. ■



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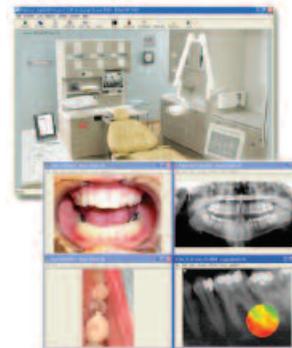
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CURRENT INNOVATIONS *in* Tooth Whitening

Jaimee Morgan, DDS; Stan Presley, DDS

The current trend in dental treatment focuses on cosmetic improvements. The dental marketplace is changing to be more receptive toward the concept of “want dentistry” instead of “need dentistry.”¹ There is also a noticeable shift from aggressive esthetic dentistry to a more conservative approach. More practitioners are now designing treatment plans that reflect these “wants” while also addressing the “needs” for the dental consumer. Tooth whitening via bleaching should be considered as the foundation for almost any cosmetic dental treatment because it is conservative, safe, and effective.^{2,7} It is appealing and appropriate for a majority of patients both young and old.^{8,9} In addition to the service being offered to patients, the economic benefits of providing dentist-prescribed tooth bleaching should not be overlooked.

It is well documented that tooth bleaching provides long-lasting results, although it ultimately depends on the patient’s dietary habits.⁹ Patients who consume drinks that stain, such as coffee, tea, and red wine, may find that they need to do touch-up bleaching periodically. Reiterating the safe nature of dentist-prescribed bleaching materials, this should not be a concern.

There are basically 3 dentist-prescribed bleaching treatment modalities: at-home tray-delivered, in-office applied, or a combination of the 2. At-home bleaching with custom trays continues to be the method of choice because of reduced chair time, convenient application,

less expenditure, simplicity, and high rate of success.¹⁰⁻¹² Recently introduced prefilled disposable bleaching trays (Opalescence Tréswhite Supreme, Ultradent Products, South Jordan, UT) have also shown effective results. These prefilled trays offer an alternative to over-the-counter bleaching products. They are useful for touch-up bleaching and provide an unprecedented convenience when utilizing a combination technique of in-office and at-home bleaching.

The patient who desires an accelerated result may prefer in-office bleaching. Other candidates for in-office bleaching are bruxers, those who have a history of temporomandibular joint problems, or hypersensitive gag reflexes. Those who are nonadherent with at-home bleaching should be considered for in-office bleaching. Teeth with intense dark stains may respond quicker when in-office bleaching is performed periodically in conjunction with a home bleaching regimen. An overlooked group that is excellent for in-office bleaching consists of those patients undergoing orthodontic treatment. Hydrogen peroxide readily penetrates the teeth and these bleaching molecules move in all directions. Therefore, the bleaching effect is not limited to only the area of the tooth that it contacts, but will also bleach under the bracket.^{7,10,11,13,14}

For in-office bleaching, successful whitening may be accomplished in 1 visit or it may take multiple visits. When a patient asks how long it will take to whiten

their teeth, consider following the advice of Van Haywood, DMD, and let them know you're going to "bleach until they are white."¹² Some bleaching agents can cause significant dehydration of the teeth, which can lead to a pseudo super-white result. Once the teeth rehydrate, they will not appear as white, and additional bleaching may be necessary. Other bleaching agents, particularly those formulated with water (Opalescence Xtra Boost, Ultradent Products, South Jordan, UT) do not cause as much dehydration, and the patient will generally see the teeth continue to whiten for an additional 24 to 48 hours. It is important to wait at least 2 to 3 days after in-office bleaching to evaluate the shade of the teeth to ascertain the need for additional bleaching.

Case 1

The following case is shown to demonstrate a typical in-office bleaching protocol. A female patient in her early teens expressed interest in improving her smile after orthodontic treatment. Her occlusion was acceptable, but the teeth measured a Vita shade A2, and her maxillary incisal edges exhibited prominent translucency and irregularities (Figure 1). In sequential order, the treatment for cosmetic improvement consisted of: (1) in-office bleaching of the maxillary teeth, (2) custom-tray-delivered home bleaching of the lower teeth, and (3) direct bonding to the incisal surfaces of teeth 7 through 10.

With the patient fully reclined, the patient's lips were moistened with lip balm and then the teeth



Figure 1—Postorthodontic patient before bleaching.



Figure 2—Cheek retractor, IsoBlock, and lip balm placed in preparation for in-office bleaching.



Figure 3—Placing resin gingival barrier.



Figure 4—Applying 38% chemically activated hydrogen peroxide bleaching gel.



Figure 5—Gel was kept off the gingival barrier to prevent accidental contact with soft tissue.



Figure 6—Proper removal of bleaching gel using surgical suction.

were isolated using a self-retaining cheek retractor (KlearView Cheek Retractor, Ultradent Products, South Jordan, UT) and a combination bite block/tongue retractor (IsoBlock, Ultradent Products, South Jordan, UT) (Figure 2). The gingival tissue was then air dried and a resin gingival barrier (OpalDam, Ultradent Products, S Jordan, UT) was syringed onto the

gingival margins of the teeth to be bleached overlapping approximately 1 mm onto the teeth (Figure 3). The barrier was also extended 1 tooth beyond where the bleach was to be placed. Special attention was paid to the interproximal tissues to prevent lingual migration of the bleach. After placement, the resin barrier was light cured. The gingival barrier replaced the need for a



Figure 7—Note contrast between bleached maxillary and unbleached mandibular teeth.



Figure 8—Two weeks after bleaching.



Figure 9—After bonding incisal edges and lingual surfaces of incisors.

rubber dam, thereby saving time and making the procedure more comfortable for the patient.

After isolation was completed, the chemically activated 38% hydrogen peroxide bleaching agent (Opalescence Xtra Boost, Ultradent Products, South Jordan, UT) was mixed using a syringe-to-syringe method. The bleaching agent was syringed onto the teeth using a Black Micro FX Tip applicator (Ultradent Products, South Jordan, UT) (Figure 4). This special tip simplified delivery, minimized waste, and allowed dispersal and manipulation of the bleaching gel. The gel was kept off of the gingival barrier to prevent accidental contact with the soft tissue (Figure 5). The gel was left on the teeth for 15 minutes, removed, and reapplied for a total of 4 cycles. Surgical suction was used to remove the gel with no rinsing of the teeth between applications (Figure 6). After removal of the fourth application, the teeth were thoroughly rinsed and high-volume suction was used. The OpalDam was teased away from the tissues with an explorer followed by another thorough rinse. Bleaching the upper teeth first created the most dramatic “wow” effect, because it

allowed the patient to see how successful the treatment was when compared with the unbleached lower teeth (Figure 7). The lower teeth were bleached using a tray-delivered at-home bleaching system (Opalescence PF 10%, Ultradent Products, South Jordan, UT) for approximately 7 nights.

It has been reported that the adverse effects of bleaching on bond strengths lasts approximately 7 days, and it is crucial to wait at least 7 days after completion of bleaching before performing any bonding treatments.¹⁵ The patient returned to the office approximately 2 weeks after bleaching for a shade evaluation and direct bonding of teeth 7 through 10 (Figure 8). Composite resin was applied to the incisal edges to resolve the irregularities, and a white composite was applied to the lingual of the incisors to soften the translucency (Figure 9).

Case 2

A 10-year-old male patient in orthodontic treatment expressed his desire for whiter teeth (Figure 10). Certainly the bleaching treatment could have been



Figure 10—Ten-year-old patient before bleaching.



Figure 11—Bleach applied to incisal half of maxillary anterior teeth.



Figure 12—One month after bleaching. Note entire tooth has been whitened.

postponed until after the orthodontic treatment was completed. However, there was no valid reason to wait considering the patient wanted the treatment and it could be easily accomplished. Because hydrogen peroxide easily penetrates the teeth and the molecules move in all directions, the presence of orthodontic brackets is not a contraindication to bleaching. Although the bleach will whiten the teeth even under the brackets, there is no effect to the existing bond.¹⁶ It has been reported that bleaching primary teeth as young as 4 years old is effective and showed no evidence of adverse effects.⁸ Maturity of the patient, more so than age, is the deciding factor; adherence is the key issue. This 10-year-old patient was adherent and mature, and his parents were supportive of the treatment. The maxillary arch wire was removed and the teeth were isolated with cheek retractors, a bite block/tongue retractor, and a resin gingival barrier. The chemically activated 38% hydrogen peroxide bleaching gel was applied to the incisal half of the maxillary anterior teeth (Figure 11). To demonstrate how effective the bleaching agent is and to show that the hydrogen peroxide does indeed travel in all directions, bleach was not placed on the gingival half of the teeth. After two 15-minute applications of the bleaching agent, the teeth were rinsed and the gingival barrier removed. One month later, a bracket was removed to assess the shade of the tooth. There was no evidence of discoloration where the bracket had



Figure 13—Twenty-year-old patient with decay and failing restorations.



Figure 14—In-office bleach applied avoiding areas of decay and defective margins.



Figure 15—Two weeks after bleaching, but before bonding.

been (Figure 12) nor was there any shade discrepancy between the incisal and gingival halves. There was significant whitening overall of the maxillary anterior teeth that can be seen when compared with the unbleached mandibular teeth. Besides the obvious whitening effects, there were other benefits as well, including positive changes in attitude, personality, and self-esteem.

Case 3

In the same manner that hydrogen peroxide can bleach under orthodontic brackets, it will also bleach under existing restorations.¹⁰ It will not change the color of the composite or porcelain, but by lightening the surrounding and underlying tooth structure, the restorations may appear lighter.



Figure 16—After maxillary anterior restorations placed. The smile she wanted for her engagement portrait.

Bleaching before providing esthetic restorative dentistry allows the clinician to use lighter shades of composite or porcelain. The reality of it is that when patients request a more esthetically pleasing smile, they're not talking about shape alone. They want the whole package, which includes ideal gingival contour, whiter and straighter teeth, lip and cheek support where possible, buccal corridors filled with teeth, and no black space.

The 20-year-old female patient who presented for a smile makeover showed evidence of decay in

almost every one of her teeth (Figure 13). Although there was a tremendous need for restorative work, she ultimately wanted a whiter and prettier smile for her upcoming engagement portraits. In-office bleaching was the logical choice to whiten her teeth before proceeding with the restorative work. By using an in-office technique, the areas of decay and defective restorations were avoided, and the patient stayed comfortable during the procedure (Figure 14). The patient returned 1 week later for a second in-office bleaching treatment (Figure 15). Fourteen days later, the restorative work she needed for her engagement pictures was done, and she returned later for the remaining restorations (Figure 16).

The Rules of the Game

Proper patient communication is important to make the in-office bleaching treatment a success. A few instructions to be shared with the patient include: (1) No talking while the in-office procedure is being done (this includes cell phones); (2) Keep hands away from face; (3) Keep the IsoBlock in the mouth, do not take it out or reposition it; and (4) Notify a staff member if any stinging sensations or tooth sensitivity are felt. Because any bleaching treatment can cause sensitivity, applying a prefilled, disposable tray of potassium nitrate (UltraEZ, Ultradent Products, South Jordan, UT) at the end of the procedure diminishes the potential for postbleaching sensitivity. It also shows that the office is caring and expresses concern. If additional bleaching is needed, using a prefilled, disposable bleaching tray is a time saver in that no impressions need to be taken and no custom trays need to be fabricated.

The benefits of tooth bleaching to the patient are obvious. However, there are significant advantages to the practice as well. Whether bleaching is offered as a means to generate immediate income or as a marketing tool to generate future income, it's a win-win situation. With the exception of a prophylaxis, there are few procedures that cost less in overhead than bleaching. In-office bleaching can be achieved without expensive lights or sizable investments in equipment. Recent reports have shown that 38% chemically activated bleach is as effective as a bleaching agent requiring a special light or heat source.¹⁷ It's not uncommon for

an office to offer free bleaching to attract patients. The return on investment dollars can be monumental. The potential referrals from that patient will also amplify your returns and grow the cosmetic portion of your practice.

The busy, successful practices are those that provide the "wants" and then seek referrals from those satisfied patients. Providing "needs" dentistry will be easily intertwined into the "wants" treatment plan. Bleaching is the foundation of cosmetic dentistry and, if used effectively, may be the foundation for the whole practice.

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